Files fascisti

OPERAZIONE BORODINO

La risposta ufficiale all'interrogativo postosi da *Planet* era che il leader russo avesse agito per ragioni di prestigio, per battere moralmente gli Alleati, o addirittura che volesse sincerarsi personalmente della morte di Hitler, per evitare un rinascere del nazionalsocialismo; ma si tratta di spiegazioni che lasciano non pochi dubbi. Con questi interrogativi in tasca lo scrittore inglese Antony Beevor, autore del libro *Stalingrado* e principale animatore del documentario *BBC*, aveva intervistato Yevgueny Dzhugashvili, nipote di Stalin. "Perché Stalin aveva tanta urgenza nell'ordinare ai generali Zhukov e Koniev di conquistare Berlino? Perché era importante farlo velocemente?", chiese il reporter. La risposta del russo era stata da manuale (del KGB): "Stalin aveva capito che era importante. Lo scopo non era solo militare ma anche politico. Le truppe alleate erano a soli 300 km da Berlino e Churchill voleva conquistare la città. Era un atto politico…".

Sarà; ma proprio Churchill, guardate il caso, era stato informato, il 12 agosto 1943 da un ufficiale del servizio segreto inglese, tramite "una fonte particolarmente ben introdotta e fondatissima, a Berlino", dell'esistenza di un'arma nota come "Phi-7". Si trattava, con tutta probabilità, della V-7, il disco volante ad elica intubata la cui produzione in serie era stata approvata l'anno prima dai Ministeri tedeschi dell'Aeronautica e della Produzione Bellica. Ciò spieghe-

rebbe altresì il motivo per cui, a guerra finita, Churchill aveva creato, nel 1952, una commissione supersegreta di studio sugli UFO. Molto probabilmente temeva anche lui, come gli americani ed i russi, che i misteri "globi" che si continuavano a vedere nel cielo fossero prototipi sperimentali costruiti da ingegneri neonazisti. Ma anche Stalin sapeva degli UFO. Ufficialmente – si dice – dopo il crash di Roswell, lo schianto di un UFO nel Nuovo Messico nel 1947 (gli americani recuperarono il velivolo e misero a tacere ogni cosa, ma la notizia, alla lunga, fuoriuscì lo stesso). Quando ne parlai nel 1994 con il fisico canadese Stanton Friedman, una delle massime autorità nello studio del celebre "incidente", mi disse di avere appurato che, all'epoca, il premier russo aveva sguinzagliato le sue spie nel Nuovo Messico per carpire informazioni sulla ricerca atomica americana; grazie a quella presenza massiccia e discreta, era stato immediatamente informato anche dei fatti di Roswell. Ma alla luce dell'inchiesta di Beevor è lecito pensare che Stalin la sapesse lunga anche sui dischi volanti del führer, parte dei quali, come frammenti di prototipo o come semplici progetti cartacei, finirono sicuramente a Mosca; lo dimostra il fatto che poco dopo i russi iniziarono a costruire dischi volanti terrestri: la "salsiera" Mishka messa a punto a Galonska, il prototipo Rossiya, l'Ekip costruito a Ulianovsk... Di quest'ultimo venni a sapere in forma "discreta" nel 1994, quando un reporter italiano era riuscito ad ottenere delle foto dai russi e si era rivolto alla redazione di *Historia* per cercare di piazzarle; venni chiamato come consulente per l'autenticità del materiale. In quel momento fu finalmente chiara la reale natura dei misteriosi UFO che da anni venivano segnalati sopra Ulianovsk...

Ma se Stalin sapeva dei dischi del führer, nulla di più facile che i suoi generali avessero l'ordine, sfondato il fronte berlinese, di impadronirsi di tutto quanto era saccheggiabile.

La spiegazione "di regime", del semplice atto politico per prestigio, non aveva giustamente convinto nemmeno Beevor, che davanti alle telecamere della *BBC* ha dichiarato: "Ho sempre pensato che dovesse esserci qualche altro motivo. Stalin non può avere messo i suoi

comandanti sotto tale pressione solo per una questione di prestigio. Perché ha sacrificato migliaia di vite? Questa è la cosa che non capisco...". E così lo scrittore, assieme a due storici locali, Irina Baramidze e Jaras Shumesko, ha setacciato, con non poca fatica, gli Archivi di Stato Russi di Storia Politica e Sociale a Mosca (in parte consultabili, grazie alla caduta del comunismo ed allo scioglimento del vecchio KGB). Tra mille difficoltà, i due infine hanno trovato, nel "nulla" più desolante, un carteggio sfuggito alla censura governativa, un "documento che non era mai stato visto prima".

"Appena l'ho letto", ha dichiarato Beevor, "mi ha colpito molto ed ho capito che dovevo considerare in modo completamente diverso l'obiettivo di Stalin a Berlino. Ho capito che le precedenti informazioni non erano sufficienti. Il documento riguardava l'Operazione Borodino, il programma sovietico di ricerca nucleare, mirato a creare una bomba atomica con la stessa rapidità degli americani. Si tratta di un rapporto di Malenkov e Beria, il capo della polizia politica russa (NKVD), a Stalin, sul sequestro effettuato dalla stessa circa il contenuto dei laboratori del Kaiser Wilhelm Institute di Dahlem; ci si riferiva particolarmente a tre tonnellate di ossido di uranio, poi usate per l'Operazione Borodino, cioè per la costruzione della prima arma atomica sovietica".

A questo punto le telecamere di *Planet* si spostavano sull'ex Istituto Kaiser Wilhelm, nel piccolo quartiere berlinese di Dahlem; era là, sotto la direzione del fisico Werner Heisenberg, che, più o meno segretamente, i nazisti cercava di costruire le nuove armi segrete del führer; ancora oggi è possibile visitarne la torre, ove è sopravvissuto ai bombardamenti un generatore a cascata. Là, secondo quanto scoperto dodici anni prima di *Planet* dal mio corrispondente polacco, l'ufologo Robert Lesniakiewicz, i fisici di Heisenberg lavoravano "alla bomba A tedesca (i nazisti ne avevano intuito la portata nel 1938, ma in seguito il progetto, ritenuto poco pratico, era stato momentaneamente accantonato; N.d.A) ed ai mezzi per trasportarla, come i missili V-1 e V-2 ed i modelli avanzati V-2/A 9-10 Urzel; ma anche alla costruzione di una sorta di Stealth per Goering ed alla messa a punto delle V-7…".

Grazie agli studi di Robert, che si è rifatto alle scoperte dello storico dell'aviazione polacco Michael Wojewodzki, il cerchio si chiudeva. La progettazione delle V-7, i dischi volanti terrestri, partiva da Dahlem.

C'è però da chiedersi se e come ne fossero al corrente i sovietici. *Planet* ha intervistato il dott. Michael Engel della Freie Universitat di Berlino, che ha risposto: "Berlino era una città in cui molti scienziati russi avevano per tanto tempo condotto i propri studi (ricordiamo che inizialmente Hitler fu in buoni rapporti con Stalin; ottenne addirittura la non belligeranza di quest'ultimo circa l'invasione della Polonia, n.d.a.). I sovietici sapevano qualcosa delle ricerche tedesche…".

Nell'aprile scorso, dunque, *Planet* ha indirettamente confermato quanto io e Robert avevamo scoperto nel 1993, ma che abbiamo divulgato solo in parte per mancanza di conferme collaterali, giunte solo adesso.

Va precisato che Robert Lesniakiewicz, un militare impiegato come guardia di confine, ufologo convinto ed impegnato nella ricerca degli X-files governativi, collaborava all'epoca con me ad un progetto internazionale di ricerca di documentazione d'epoca sulle V-7. In quegli anni non sapevamo ancora dell'esistenza dei files fascisti e dunque volevamo capire se le storie che erano circolate sui giornali negli anni Cinquanta, circa i dischi volanti di Hitler, fossero leggende o realtà. Robert, in questo senso, era molto avvantaggiato, in quanto all'Est esisteva una massiccia pubblicistica storico-scientifica, intradotta ed ignorata da noi in Occidente. Del team facevano parte anche l'ungherese Milos Jesensky (che aveva collezionato diverso materiale locale sui progetti nazisti) e, oltre oceano, il sacerdote contattista americano Frank Stranges. Quest'ultimo era stato consulente del telefilm inglese *UFO Base Shado* (lo si vede intervistato per alcuni secondi nell'episodio intitolato *The Dalotek affair* – in italiano, "I globi di luce"), un serial che ha anticipato con straordinaria preveggenza certe tematiche quali i rapimenti UFO, le mutilazioni umane e le ibridazioni aliene, la sterilità degli E.T. e la loro ricerca di mondi ove trasferirsi, l'esistenza di UFO sottomarini ed in orbita attorno alla Luna e persino il fatto che gli alieni portassero lenti a contatto protettive. Ma il sacerdote del Nevada, che nell'intervista svelava inquietanti retroscena sui presidenti Ford e Kennedy (dichiarazioni inspiegabilmente sparite nella traduzione italiana, ma "recuperabili" grazie ai sottotitoli in inglese nel cofanetto di DVD), era stato altresì testimone, a Reno, del passaggio di un disco volante che, a suo dire, recava sulla carlinga una svastica. Da allora

l'americano si era gettato anima e corpo negli studi sulle presunte (e peraltro mai scoperte) basi segrete naziste che negli anni Cinquanta avrebbero cercato di ricostruire i dischi del führer.

Ma le informazioni più importanti sono arrivate da un'altra trasmissione, un documentario di *Discovery Science* intitolato "I veri dischi volanti", andato in onda sul satellite il 19 febbraio 2005. Sebbene il documentario sostenesse a spada tratta, ed un po' forzatamente, l'ipotesi che *tutti* i dischi volanti fossero armi segrete messe a punto da russi e americani (questi ultimi, grazie a ditte come Convair, Looked, Boeing) partendo dagli studi dei nazisti, le interviste raccolte da *Discovery* erano enormemente interessanti.

Il primo servizio riguardava l'esperimento condotto nel '32 a Bucarest dal rumeno Henry Coanda, uno scienziato che era riuscito a far levitare un oggetto a forma di disco, sfruttando un principio fisico poi definito "effetto Coanda". Testimone dell'esperimento fu l'allora studente ventenne Radu Manicatide che, invecchiato, ha dichiarato a *Discovery*: "Il disco volante si è alzato fino al soffitto e poi si è fermato. È stato un momento straordinario. Non mi sarei mai aspettato una cosa del genere. Io ero abituato al concetto normale di volo. L'idea dell'effetto Coanda è semplice, ma naturalmente ci vuole qualcuno che se la faccia venire per primo". Gli studi di Coanda sarebbero stati in seguito rispolverati dai nazisti per la costruzione delle V-7, a Praga ed in Germania (presso le officine Skoda), negli anni Quaranta.

Discovery proseguiva poi con un'altra testimonianza eccezionale, quella di Luigi Romersa, che era il consulente particolare di Mussolini per la tecnologia e gli armamenti. "Nel '44 le cose vanno male, per i tedeschi", dichiarava una voce fuori campo, "ed Hitler deve rassicurare i suoi alleati, primo fra tutti Benito Mussolini. È così che gli confida di avere un aereo nuovo e spettacolare che potrebbe cambiare il corso della guerra; lo chiama la sua Wunderwaffe..." . E così, nel luglio di quell'anno, Mussolini e Romersa avevano un incontro segreto con Hitler ed i suoi ingegneri, presso le officine tedesche della Skoda. Ai due, il führer mostrava il disco volante tedesco! "Lo vidi", ha dichiarato l'ottantaquattrenne Romersa a *Discovery*: "Era tutto circolare, con una parte centrale, che era la cabina. Nella cupola centrale c'era l'equipaggio che era costituito, allora, solo da Schriever (uno dei progettisti delle V-7, n.d.a.)". Henry Stevens, storico dell'aviazione, ha confermato: "C'erano qualcosa come quindici prototipi. Dopo essere stati costruiti e testati erano stati scartati. Le S.S. e l'Aeronautica usavano la Skoda per costruire ogni genere di velivolo" (poi distrutti al sopraggiungere dei russi; evidentemente le truppe di Stalin fallirono parte dell'Operazione Borodino).

Il particolare che segue è poi agghiacciante. L'idea folle di Hitler, svelava Romersa, era equipaggiare con bombe (atomiche?) i dischi volanti e colpire New York! Con ciò si spiega, ha dichiarato Romersa, una strana frase di Hitler durante un discorso: "Dio mi perdoni gli ultimi cinque minuti di guerra!". La Germania nazista intendeva dunque colpire con l'arma atomica gli Stati Uniti? Ironia della sorte, sarebbero stati gli americani, invece, a determinate le sorti del conflitto con un bombardamento nucleare...

Ma tutto ciò non è bastato a mettere la parola "fine" a tutta la vicenda.

The German Connection

Defeated Germany contained a wealth of resources useful for Operation Borodino: scientists, laboratory equipment, and uranium deposits. Although the Germans had not managed to create a uranium bomb themselves, several of their scientists had made key breakthroughs in uranium processing technologies.[22] German uranium deposits had been more thoroughly exploited than those in the USSR. Beria was in an ideal position to take over this war booty, with many of his men in key positions within the Soviet occupation authorities, the so-called SVAG.[23]

Beria placed two of his aides, Col. Gen. Avraami Zavenyagin, and Col. Gen. V. Makhnev, in charge of the German effort. Zavenyagin arrived in Berlin in April 1945 and set up an office in the Berlin-Gruenau district. With the help of specialists from Kurchatov's team in Moscow, including Flerov, Artsimovich, and Kikoin, Zavenyagin began recruiting likely German scientists. The Soviets did not have a particularly difficult time.[24]

Some of the captured German physicists, such as Gustav Hertz, were ardently anti-Nazi and happy to aid any of the countries that had helped bring about Hitler's defeat. Some of these scientists' leftist political beliefs inclined them to aid the Soviets, but for many anti-Nazis it was the luck of the draw: they happened to be captured by the Soviets or were located in the Soviet zone of occupation when the war ended. Hertz later said that he thought that his talents would be better appreciated by the Soviets since so many of the top German physicists had already gone to the United States before the war.

The opposite was the case with other German scientists. Physicists like Peter-Adolf Thiessen had been compromised by their high-level association

with the Nazi party and were fearful that the victors would treat them harshly. They quickly found that the NKVD did not share the uncompromising moralism evident in some British and American occupation officers. Zavenyagin and his men were willing to turn a blind eye to wartime "indiscretions" in return for German assistance in "pure, basic, scientific research."

A third group of German scientists had less choice in the matter. Other branches of the NKVD had made wholesale arrests of key German industrial personnel and thrown many prominent German industrial engineers into concentration camps. The entire leadership of the Siemens company, for example, was thrown into a camp at Poznan in Poland. Many of the older men, including von Siemens himself, died in the camp from malnourishment and disease, while others barely avoided the same fate. Zavenyagin's team discovered several prominent engineers in the camps, such as Max Steenbeck from Siemens, and recruited them for the uranium bomb program. The choice between dying in a concentration camp or being released to work for the Soviets was an easy one to make.

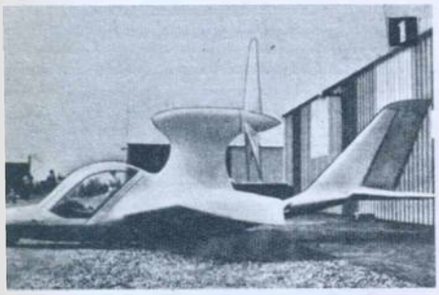
Radu Manicatide

allegati Sport si Tehnika 1-1-73 e documento CIA

CLUBUL CONSTRUCTORILOR AMATORI

Marea familie a constructorilor de aparate de zburat, amatori, creşte pe zi ce trece. Pasiunea aceasta, care nu cunoaşte limite de virstă, a creat prietenii şi relaţii de colaborare între tineri sau virstnici aflaţi la sute şi mii de kilometri depărtare, chiar dacă nu s-au văzut niciodată. Unele din creaţiile acestor amatori, de valoare deosebită, au fost preluate de către firmele constructoare de avioane şi realizate în serie.

Iată, de pildă, în imaginea 1, unul



dintre cele mai interesante avioane ale anului 1972: VERTAK S-220 «Estol», proiectat şi realizat de Norman Moore din Ohio (S.U.A.). El prezintă o seamă de soluţii tehnice ingenioase care au stirnit interesul specialiştilor. Structura şi învelişul avionului sînt realizate în cea mai mare parte din mase plastice stratificate, aripile constituie, aproape în întregime rezervoare de combustibil, ampenajul este format din derivă şi un stabilizator monobloc iar trenul de aterizare, triciclu, este escamotabil. «Estol» a fost echipat cu un motor Wankel rotativ de 130 CP, cu o elice a cărei pale au o profunzime foarte mare. Datorită formei sale, la decolare se produce un efect de sol care face posibilă desprinderea de pe pămînt în numai 30 m distanţă.

In octombrie 1972 s-au făcut primele zboruri. Performanţele sînt foarte frumoase: viteza maximă — 437 km/oră; viteza de decroşare — 51 km/oră (!) viteza ascensională — 9,40 m/sec; autonomie de zbor 1800 km. «Estol» are o anvergură de 7,31 m, lungimea de 6,40 m, înălţimea de 2,18 m, greutatea gol de 430 kg. Noul aparat va putea fi construit în serie, în variantele de 1, 2 şi 4 locuri, precum şi ca avion amfibiu. De asemenea, se studiază şi o variantă cu aripi pliabile.

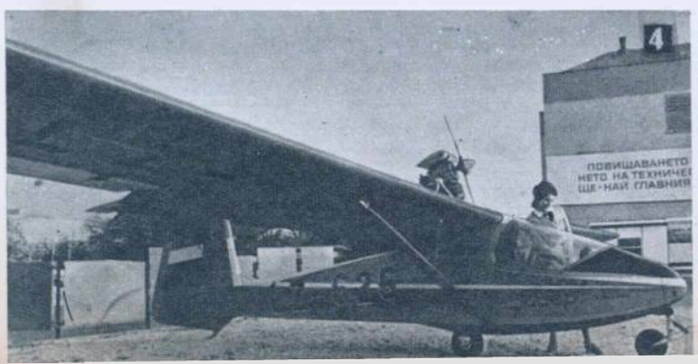
O construcţie insolită o constituie aparatul polonezului Vitold Sobieszczanski, din Varşovia. (fig. 2). El este atît de uşor încît tînărul inventator îl poate ridica pe braţe. Este vorba, după cum se vede, de un triciclu, pe roţi de bicicletă, cu schelet de lemn. Portanţa este asigurată de o succesiune de aripi triunghiulare, din pînză, pe schelet de lemn. Intreaga construcţie este făcută pe principiul flexoplanului. Anvergura originalului aparat este de numai 1,50 m, lungimea de 2,40 m, suprafaţa portantă de 2,25 m iar greutatea de 25 kg. Aparatul este calculat să aibă, în linie de zbor, 100 kg. Ca o curiozitate poate fi amintit faptul că el se pilotează în poziţia culcat pe burtă. Sobieszczanski şi-a botezat sugestiv construcţia: V.S. 11 «Minimum».

Un alt aparat, de data aceasta mai cu pretenţii, este micuţul «Ol'Blue», realizat de francezii R.Minges şi I.Bennet. (fig 3). Folosind o formă clasică, cei doi constructori au reuşit să «scoată» din «Ol'Blue» 490 km/oră cu un motor Continental. Greutatea avionului gol este de 244 kg. iar în linie de zbor de 326 kg. Are o autonomie de zbor de o oră.

Date tehnice: 4,87 m anvergură, 5 m lungime şi 1,27 m înălţime.

În sfîrşit, iată şi o construcţie din R.P.Bulgaria, deosebit de reuşită. (fig. 4) Este vorba de un motoplanor realizat de maestrul sportului Anghel Milenov din Sofia, pilot planorist. Milenov şi-a construit aparatul cu ajutorul pionierilor aeromodelişti de la Casa pionierilor. Motorul cu care este propulsat, la decolare, este un motor de automobil de mic litraj, modificat. Aparatul a fost prezentat la o mare expoziţie de construcţii tehnice realizate de tineret, organizată, de curînd, în oraşul Plovdiv.

V. LUIEREANU



Pasiune şi creaţie
-Ing. Radu Manicatide la 60 de ani-

Printre bacalaureaţii Liceului Sf. Sava din Bucureşti, promoţia 1930, se număra şi tînărul Radu Manicatide. El venea de la Iaşi, unde se născuse în aprilie 1912. Fiind un element foarte bun, cu vădite înclinaţii spre tehnică, este admis la Şcoala Aeronautică şi de Construcţii Automobile din Paris, pe care o termină cu succes în 1934, ca şef de promoţie. În acest timp obţine şi brevetul de pilot.

Între 1935—1937 tînărul inginer lucrează la Societatea L.A.R.E.S. (Liniile Aeriene Române Exploatate de Stat) ca şef adjunct al atelierului de reparat avioane şi motoare de la Băneasa, iar apoi la Uzinele I.A.R. (Braşov) unde este numit şef al biroului de prototipuri şi experienţe şi apoi al atelierului de montaj avioane.

După terminarea războiului, Radu Manicatide lucrează la I.R.M.A.-Băneasa.

În întreaga sa carieră, legată cu deosebită pasiune de proiectarea şi construirea aparatelor de zbor, ing. Radu Manicatide a creat peste 20 de tipuri de planoare şi avioane, multe dintre acestea fiind construite în serie şi constituind, în ultimii ani, dotarea de bază a aviaţiei noastre sportive şi utilitare. A debutat în domeniul construcţiilor aeronautice încă de pe vremea cînd era elev. În 1961 un aparat construit de el cîştigă primul record mondial românesc în categoria bimotoarelor semiuşoare.

Dar să încercăm o trecere în revistă a tipurilor de aparate de zbor ale căror proiecte poartă semnătura lui Radu Manicatide, aparate ce au îmbogăţit tradiţia aripilor româneşti.

Planorul R.M.—1, construcţia sa de debut, cîştigă în anul 1926 primul concurs de aeromodele şi planoare organizat în ţara noastră. Îi urmează, în 1927, un nou planor, denumit R.M.—2, şi apoi R.M.—4, primul său aparat echipat cu un motor de 12 C.P. În 1935 proiectează tipurile R.M.—5 (fig. 1) şi R.M.—7, ambele fiind avioane uşoare de sport şi turism, ca şi R.M.—9 de altfel, realizat în anul 1942 (fig. 2). Seria aparatelor uşoare, construite cu mijloace proprii, adeseori modeste, este încheiată cu planorul experimental R.M.—10 (1943) (fig 3) şi R.M.—12 (1953), de asemenea un aparat experimental avînd ampenajul orizontal în faţă, planurile de direcţie şi deriva fiind dispuse la extremităţile aripilor, trenul de aterizare triciclu iar elicea propulsivă. Se poate considera că între 1926—1953. Radu Manicatide a acumulat o bogată experienţă, completată şi prin participarea directă, în cadrul colectivului uzinelor I.A.R. — Braşov, la realizarea unor aparate de concepţie proprie a acestui colectiv sau a altor tipuri în licenţă, printre care IAR—24, IAR—27, IAR—37, IAR—38, IAR—39, IAR—80 şi 81...

Începînd cu anul 1949, inginerul Radu Manicatide îşi realizează proiectele aparatelor în cadrul unor unităţi industriale aeronautice, denumirea lor reluînd simbolic iniţialele cunoscutelor avioane IAR. Începutul este făcut de către IAR—811 (fig. 4) construit la U.R.M.V. — Braşov, primul avion românesc de după război, care este păstrat şi astăzi la Muzeul Militar Central din Bucureşti. Seria este continuată cu avionul de şcoală, antrenament şi acrobaţie IAR—813 (fig. 5), aparat ce deţine o serie de recorduri de înălţime şi viteză, naţionale şi internaţionale omologate de Federaţia Aeronautică Internaţională (F.A.I.). Primul avion bimotor construit în ţara noastră, ca aparat de construcţie românească, aparţine tot inginerului Radu Manicatide şi este denumit IAR—814 (fig. 6), fiind aparatul care a adus aviaţiei noastre recordul mondial de distanţă în circuit închis pentru avioanele din clasa C—1d, stabilit în anul 1961, cînd a realizat un zbor de 4 462,870 km în 20 ore şi 41 minute. Urmează primul avion utilitar românesc IAR—817, cu varianta sa sanitară IAR—817 S (fig. 7) apoi M.R.—2 (fig. 8) avion bimotor pentru transport uşor.

Începînd din anul 1959, ing. Radu Manicatide, conduce colectivul ce proiectează avioanele IAR—818 cu varianta hidro IAR—818 (fig. 9) şi primul avion românesc destinat agriculturii, aparatul monoloc IAR—821, cu variantele biloc de şcoală şi antrenament IAR—821 B (fig. 10). Ultimele sale proiecte sînt avionul agricol IAR—822, (fig. 11) cu varianta biloc IAR—822 B şi avionul IAR—823 (fig. 12) de antrenament şi turism.

Inginerul Radu Manicatide îşi continuă şi în prezent, cu aceeaşi modestie şi pasiune, creaţia valoroasă în domeniul construcţiilor aeronautice româneşti, fiind un exemplu pentru tînăra generaţie de ingineri şi proiectanţi. Pentru toate aceste realizări, el a fost distins cu Premiul de Stat, Diploma «Paul Tissandier» acordată de Federaţia Aeronautică Internaţională, ordine şi medalii. Recent, cu ocazia împlinirii vîrstei de 60 de ani i s-a acordat, într-un cadru festiv, «Ordinul Muncii» clasa I, ca semn de înaltă preţuire a rodniciei şi valoroasei sale activităţi.

Ovidiu IONESCU

(Continuare în pag. 32)

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[redacted] 25X1

INSTALLATION OR ACTIVITY NAME		COUNTRY
Ghimbav Aircraft Plant ICA		RO
UTM COORDINATES	GEOGRAPHIC COORDINATES	
NA	45-40-35N 025-30-23E	

25X1

MAP REFERENCE

SAC. USATC, 200 Series, Sheet 0251-15, scale 1:200,000

LATEST IMAGERY USED	NEGATION DATE (If required)
[redacted]	[redacted]

25X1

ABSTRACT

1. (S/D) This is the initial NPIC basic report on Ghimbav Aircraft Plant Interprinderea de Constructii Aeronautica (ICA), Romania, and satisfies the basic reporting requirement for this target. As of [redacted] the date of the latest imagery used in this report, Ghimbav Aircraft Plant ICA consisted of 46 significant buildings and structures with a total floorspace of 80,809 square meters. Usable floorspace at the collocated Brasov/Ghimbav Airfield ([redacted], the test and flyaway field for the plant, is included in the plant total.

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2. (S/D) This report includes a description of Ghimbav Aircraft Plant ICA, a chronology of construction, a discussion of aircraft production and assembly activity at the plant, a location map, four annotated photographs, two tables, and three graphs illustrating aircraft observations and production rates.

INTRODUCTION

3. (S/D) Ghimbav Aircraft Plant ICA (Figure 1) is 2.5 nautical miles (nm) northwest of Brasov and 2 nm north-northeast of Ghimbav. It is on gently rolling terrain and occupies an area of 17.9 hectares. Unlimited future expansion is possible to the east, south, and southwest.

4. (S/D) Ghimbav Aircraft Plant ICA (Figure 2) consists of two production-related areas and three support areas. The production-related areas are the fabrication area (Ghimbav Aircraft Plant ICA proper) and the test and flyaway field (Brasov/Ghimbav Airfield). The support areas are an electrical substation and water storage facility, a water pumping station, and a meteorological station. An associated construction support camp is outside the southeast corner of the plant but is not included as part of the plant in this report.

5. (S/D) Ghimbav Aircraft Plant ICA (Figure 3) is secured by a combination of walls and fences. Access to the plant is restricted to three vehicle/pedestrian gates on the southwest side of the plant and one aircraft (taxiway) entrance on the northeast side.

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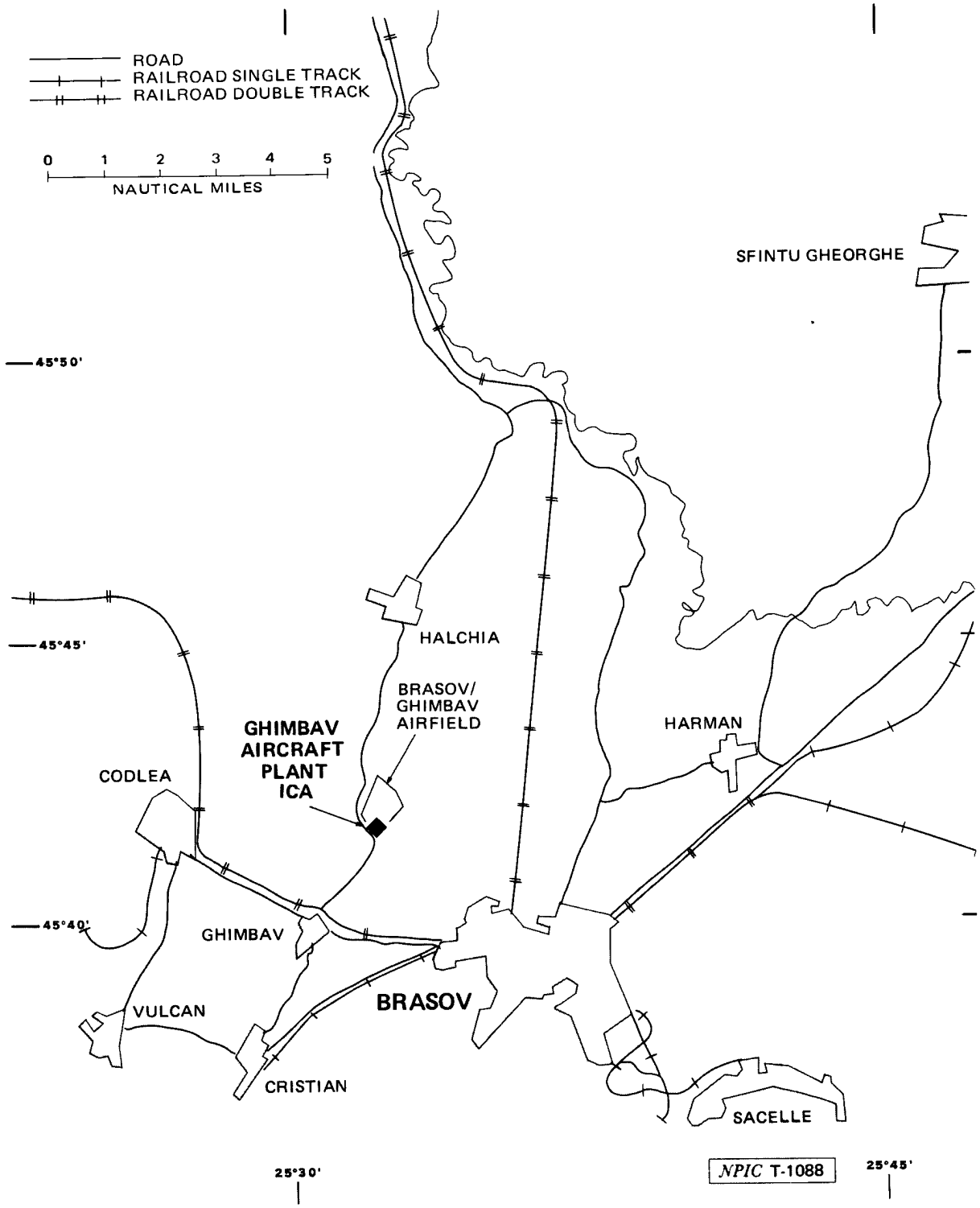

FIGURE 1. LOCATION OF GHIMBAV AIRCRAFT PLANT ICA, ROMANIA

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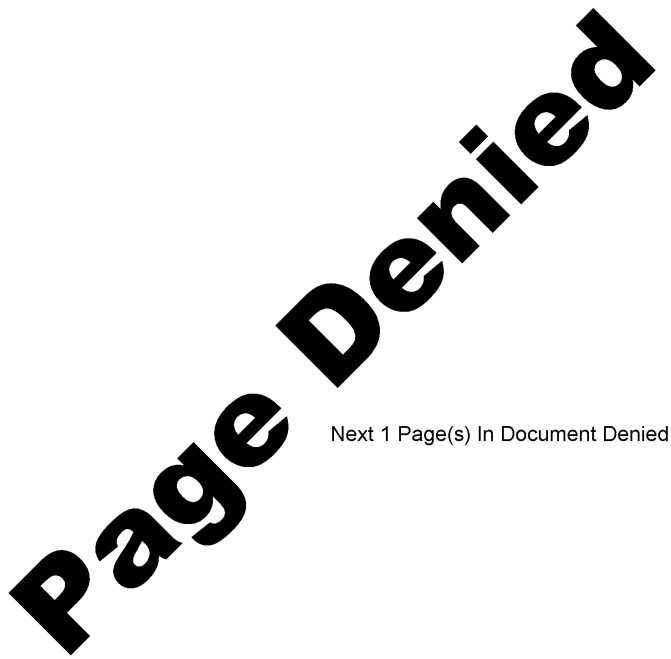

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Table 1.
Dimensions and Construction Chronology at Ghimbav Aircraft Plant ICA
(Items keyed to Figure 3)

This table in its entirety is classified TOP SECRET RUFF

Item	Description	Dimensions* (m) L	W	H	Total Floorspace (sq m)	Date First Observed Ucon	Date Considered Complete	Remark
Fabrication Area								
1	Checkout/paint hangar							
a	Hangar sect							
b	Plant stor sect							
c	Spt sect							
d	Control tower							
2	Stor blg							Height could not be deter
3	Prob explosives stor bldg							Separately fence secured
4	Admin bldg							2 stories
5	Final assem/ assem bldg							
a	Assem sect							
b	Final assem sect							
c	Engr sect							Connected by compressed air line to item 7 & 2 stories
d	Engr sect							3 stories
e	Engr sect							2 stories
6	Admin/security bldg							2 stories
7	Engr bldg							4 stories
8	Security bldg							Supports main plant entrances
9	Compressor/air conditioning bldg							
a	Compressor sect							5 stacks on west side
b	Air conditioning sect							
c	Engr/shop sect							
d	Lab sect							
10	Assem/subassem bldg							
a	Subassem sect							
b	Shop sect							
c	Engr sect							5 stories
d	Admin/engr sect							4 stories
e	Shop sect							
f	Assem sect							2 stories
g	Engr sect							2 stories
h	Spt sect							
i	Spt sect							Max height, [redacted]
11	Cooling tower							Induced draft; [redacted] fans
12	Stor bldg							

*Mensural accuracy is ± [redacted] of measured distance) for vertical [redacted]

**Not observed until completed.

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Table 1.

Item	Description	Dimensions* (m) L	W	H	Total Floorspace (sq m)	Date First Observed Ucon	Date Considered Complete	Remark
13	Air regulator bldg							Regulates flow of compressed air from item 9
14	Water treatment/ cooling bldg							
a	Treatment sect							
b	Cooling sect							
c	Spt sect							
15	POL tank							Revetted
16	Water tank							
17	Assem/sub- assem bldg							
a	Assem sect							Dimens over- all, floorspace includes 2 annexes
b	Subassem sect							
c	Shop sect							
d	Shop sect							
18	Subassem bldg							
a	Subassem sect							
b	Shop sect							
c	Shop sect							Large square exhaust vent on roof suggests extensive heat processing in this sect
d	Spt sect							
e	Stor sect							
f	Subassem sect							
g	Shop sect							
h	Stor sect							
i	Woodworking sect							
j	Spt sect							
19	Heating plant							Dimens overall floorspace includes 2 annexes
20	Stor bldg							
21	Stor bldg							
a	Stor sect							
b	Stor sect							
22	Water pumping sta							
23	Assem bldg							
a	Assem sect							
b	Engr sect							3 stories
c	Shop sect							
24	Checkout bldg							
25	Checkout bldg							
26	Stor bldg							
27	Stor bldg							Supports POL stor fac immed west
28	Veh stor/maint bldg							
29	Stor bldg							Height could not be deter

*Mensural accuracy is [redacted] measured distance) for vertical dimensions, both within

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Table 1.

Item	Description	Dimensions* (m) L	W	H	Total Floorspace (sq m)	Date First Observed Ucon	Date Considered Complete	Remark
30	Shop bldg							
31	Veh stor bldg							
32	Subassem bldg							
33	Security bldg							
Electrical Substation and Water S								
34	Control bldg							Supports electrical substation
a	Sect							
b	Sect							Height could not be deter
35	Pumphouse							Supports water stor fac
36	Pumphouse							Supports water stor fac
37	Water stor fac							
a	Control sect							Buried with UG entrance
b	Buried tank							
c	Buried tank							
Meteorological Station								
38	Spt bldg							Supports meteorological station
39	Spt bldg							Supports meteorological station
Brasov/Ghimbav Airfield								
40	Checkout apron							
41	Checkout apron							
42	Compass rose							
43	Repair hangar							
44	Operations bldg/ passenger terminal							
a	Terminal sect							2 stories; prob contains office space
b	Ops sect							
c	Control tower							4 stories; lower 3 stories are prob ops associated
d	Admin sect							
e	Admin sect							
45	Stor bldg							Supports main airfield entrance
46	Security bldg							
Total floorspace on								

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*Mensural accuracy is of measured distance) for vertical dimensions, both within

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BASIC DESCRIPTION

General Description

6. (S/D) Ghimbav Aircraft Plant ICA (Figure 3 and Table 1) occupies an area of 17.9 hectares and consists of 46 significant buildings and structures with a total floorspace of 80,809 square meters.

7. (S/D) The fabrication area, Ghimbav Aircraft Plant ICA proper, is at the southeast corner of Brasov/Ghimbav Airfield and contains 32 significant buildings and structures. These structures consist of an administration building (item 4, Figure 3), an administration/security building (item 6), an engineering building (item 7), a final assembly/assembly building (item 5), an assembly building (item 23), two assembly/subassembly buildings (items 10 and 17), two subassembly buildings (items 18 and 32), a checkout/paint hangar (item 1), two checkout buildings (items 24 and 25), a shop building (item 30), a heating plant (item 19), a compressor/air conditioning building (item 9), and 17 other major buildings of varying functions. A small POL storage facility is at the extreme north corner of the fabrication area.

8. (S/D) Brasov/Ghimbav Airfield (Figure 3), the test and flyaway field for the plant, consists of a 1,067- by 762-meter, serviceable, sod landing area; a six-position antiaircraft (AA) site; a repair hangar (item 43); an operations building/passenger terminal (item 44); two checkout aprons (items 40 and 41); a compass rose (item 42); a security building (item 46); and a storage building (item 45). A small POL storage facility is adjacent to the fabrication area.

9. (S/D) The electrical substation and water storage facility (Figure 3) is 100 meters south of the fabrication area. It is separately wall secured and consists of a large substation, a control building (item 34), a water storage facility (item 37), and two pumphouses (items 35 and 36).

10. (S/D) The water pumping station (item 22) is 50 meters south of the fabrication area. It is separately fenced secured and consists of an electrical pump/wellhead. This station supplies water for the plant.

11. (S/D) The meteorological station is 100 meters west of the southwest corner of the fabrication area. It consists of two separately secured instrumentation sites (one wall secured, one fenced secured) and two support buildings (items 38 and 39).

12. (S/D) The following table lists the use of plant floorspace as of [redacted] the date of the latest imagery used in this report. .25X1

Function	Floorspace (sq m)	Percentage of Total Floorspace
Administration/engineering	24,398	30.2
Production/checkout	46,878	58.0
Production support	4,490	5.6
General support	5,043	6.2
	80,809	100.0

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Construction Chronology

13. (S/D) On imagery of [redacted] the site presently occupied by Ghimbav Aircraft Plant ICA was being used as farmland. The next usable coverage of the area was on [redacted] 1969. At that time two buildings, an assembly/subassembly building (item 10) and a subassembly building (item 18), had been completed and were operational. An additional five support buildings, which were later razed, were also present. Thus, at this early stage in the history of the plant, limited production/assembly of aircraft was possible. The total usable floospace on [redacted] 1969 was 6,686 square meters of which 4,412 square meters remain in use today. The water pumping station (item 22) was also present on [redacted] 25X1 25X1 25X1 25X1

14. (S/D) Construction observed between [redacted] resulted in the addition of 57,305 square meters of floorspace and the loss, through razing, of 2,274 square meters, bringing the plant total to 61,717 square meters. Two buildings were enlarged, 33 new buildings were constructed, and five buildings were razed. 25X1

15. (S/D) Enlargement of the two previously existing buildings resulted in the addition of a support section (item 10h) to the assembly/subassembly building and the addition of a storage section (item 18h) and a support section (item 18j) to the subassembly building.

16. (S/D) New buildings constructed during this period consisted of an administration/security building (item 6), a final assembly/assembly building (item 5), an assembly building (item 23), a checkout/paint hangar (item 1), two checkout buildings (items 24 and 25), a shop building (item 30), a subassembly building (item 32), a repair hangar (item 43), a heating plant (item 19), a cooling tower (item 11), an air regulator building (item 13), a water treatment/cooling building (item 14), a compressor/air conditioning building (item 9), a POL tank (item 15), a water tank (item 16), an operations building/passenger terminal (item 44), a water storage facility (item 37), two associated pumphouses (items 35 and 36), an electrical substation with an associated control building (item 34), a vehicle storage/maintenance building (item 28), a vehicle storage building (item 31), a probable explosives storage building (item 3), three security buildings (items 8, 33, and 46), five storage buildings (items 12, 20, 21, 27, and 29), and two support buildings (items 38 and 39). Other construction during this period consisted of the POL storage areas at the airfield and in the fabrication area, and the addition of the entire security wall/fence system.

17. (S/D) Construction observed between [redacted] resulted in the addition of 19,092 square meters of floorspace, bringing the plant total to the current 80,809 square meters. 25X1

18. (S/D) The enlargement of five existing buildings resulted in the addition of a support section (item 1c) to the checkout/paint hangar, the addition of a subassembly section (item 10a), a shop section (item 10b), an engineering section (item 10c), and an administration/engineering section (item 10d) to the assembly/subassembly building, the addition of a support section (item 14c) to the water treatment/cooling building, the addition of an administration section (item 44e) to the operations building/passenger terminal, and the addition of a new storage section (item 21b) to a storage building.

19. (S/D) New buildings constructed during this period consisted of an assembly/subassembly building (item 17), an engineering building (item 7), an administration building (item 4), and three storage buildings (items 2, 26, and 45). Also construction during this period included two aircraft checkout aprons (items 40 and 41), a compass rose (item 42), and a taxiway connecting these to the checkout/paint hangar.

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Plant Activity

20. (S/D) Prior to the occupation of Axis-aligned Romania by Soviet troops in 1943, the most active aircraft industry plant in Romania was in Brasov.[1] Between 1943 and 1967, this plant produced a variety of utility aircraft. However, in 1967 the plant was converted to the production of light-wheeled vehicles and ball bearings. During this time, Romania began a policy of separation from the USSR. One manifestation of this new policy was the construction of Ghimbav Aircraft Plant ICA (Interprinderea de Constructii Aeronautica),[2] northwest of the old Brasov factory.[3] Since the inception of production activity at Ghimbav in 1969, the plant has been involved in the production of eight aircraft and the licensed assembly of two others (Table 2). These programs are discussed in the following paragraphs.

Aircraft Production and Assembly Programs

21. (S/D) **IAR-818.** The IAR-818 is a high-wing single-engine monoplane equipped with a 210-horsepower, Walter Minor M-337, six-cylinder air-cooled engine. A pod-and-boom fuselage structure was incorporated in this aircraft for easy rear loading of bulky freight items. The fuselage of the IAR-818 is tubular steel while the wings are plywood over two steel spars.[4] Production of the IAR-818 began in 1961 at Bucuresti Airframe Plant Baneasa IAR [redacted] and continued until 1967 at which time Bucuresti began tooling for production of the BN-2A ISLANDER.[4] At this time, production of the IAR-818 was transferred to Ghimbav. Production at Ghimbav continued until at least December 1973. Observations of IAR-818 at Ghimbav (Table 2) varied widely throughout this period with a high count of 22 seen on [redacted] Although the exact number of IAR-818 produced at Ghimbav cannot conclusively be determined from imagery, it is likely that at least 75 were produced. 25X1 25X1

22. (S/D) **IAR-822.** The IAR-822 is a low-wing agricultural monoplane featuring a rear-placed cockpit for pilot protection, a chemical hopper with a 1,332-pound capacity, wing-internal fuel tanks, and reinforced landing gear.[1] This aircraft entered series production in 1971 (Table 2) at Ghimbav, and, although the production run was small, this aircraft was very significant since it incorporated extensive western equipment and design features. The IAR-822 was a direct follow-on of the IAR-821, and both aircraft were designed by Radu Manicatide, who felt the IAR-821 could not be competitive in the western market because of its numerous Soviet parts and frequent need for overhaul. Thus, the IAR-822 was equipped with a 290-horsepower, Lycoming IO-540, six-cylinder engine rather than the Soviet Ivchenko AI-14MF which powered the IAR-821. A variant of the IAR-822, produced in very limited numbers, was the IAR-822B, a two-place trainer aircraft.[1] Two IAR-822 were observed at Ghimbav on [redacted] (Table 2), and it is likely that these were the two prototypes which achieved flight qualification in 1971.[1] Production of the IAR-822 began in 1971 and ended in late 1973 with an estimated production run of 40 to 60 aircraft. 25X1

23. (S/D) **IAR-316 Alouette III Helicopter.** The desire to separate the Romanian aviation industry from Soviet influence received a large boost in 1971 when Romania reached an agreement with the French firm Aerospatiale to assemble an initial run of 50 SA-316B Alouette III.[5] Limited-scale assembly of the Alouette III (Figure 4), designated IAR-316, was seen at the plant on [redacted] [redacted] (Table 2). Additional contracts have since been signed,[6] IAR-316 production has continued, and, since 1976, assembly rates have increased significantly. A high count of 14 IAR-316 was observed at the plant on [redacted] Figure 5 illustrates the probable assembly cycle of the IAR-316 at Ghimbav. Limited-scale assembly occurred from late 1971 until mid-1975. At that time tooling for the IAR-823 25X1 25X1 25X1

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Table 2.
Aircraft Sightings at Ghimbav Aircraft Plant ICA, [redacted] 25X1

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Date of Coverage	Production Aircraft: IAR-818	IAR-822	IAR-283 Military	IAR-283 Civilian	IAR-824	IAR-826	IAR-827	IS-28M1 Powered Glider	IS-28B2 Glider	Assembly Aircraft: IAR-316 Alouette III Military	IAR-316 Alouette III Civilian	IAR-330 PUMA Military	IAR-330 PUMA Civilian	Repair and/or Training Aircraft: AN-2 COLT	Z-326 Trener Master	IAR-817	Miscellaneous Sightings
[redacted]	6	2															IAR-814, 3 IFIL-REGHIN RG-6
	16	2													1	1	1 IAR-813
	22	2									1				1	3	
	4	4								1	1			2	1	3	1 IAR-814
	9	4							2		2			1	3	2	
	11	1		1										1		4	
	6																
	7	5									1			1	4	2	
	9																
	1			1							1				1	2	
	2														1		
	2							1								1	
	5		1	17		1		1	1		5	2		3	6	1	1 HIP C
	1					8			2					2	4		
						7								2			1 HOODLUM
	1				3	3		7	1	7	1			3	3	2	
	1			1	5	3		3				2		1	5		
	1		3	3	2			3		2	3	1		3	2	1	
	3				1			2	1	3	4	3	1	6	1	1	
	1		3	2	1		4	2	4	7*	7	2	1	2	6		
	2		4	2	1		2	4	2	4	5	2	2	2	6	1	
	1			1			3	5		3	3	2	4	4	5	1	
	1		1	1			1	2	1	3		2	3		3		
			2	4	1		1	3	2		6	2	2	4	4	1	1 PZL-104 WILGA
					2									5			
			4				3	1		5	2	1		5	4		
			5	2	2		1	3	3	1	2	4	1	1	2	1	1 HIP C
			5		1		3	3	3	3	1	2			1	1	
			5	7	2		1	6	2	1		3		2	2	1	
			2		1		3	2	2	1	2	3		1	2	1	

* Two with rocket pods.

[redacted] 25X1

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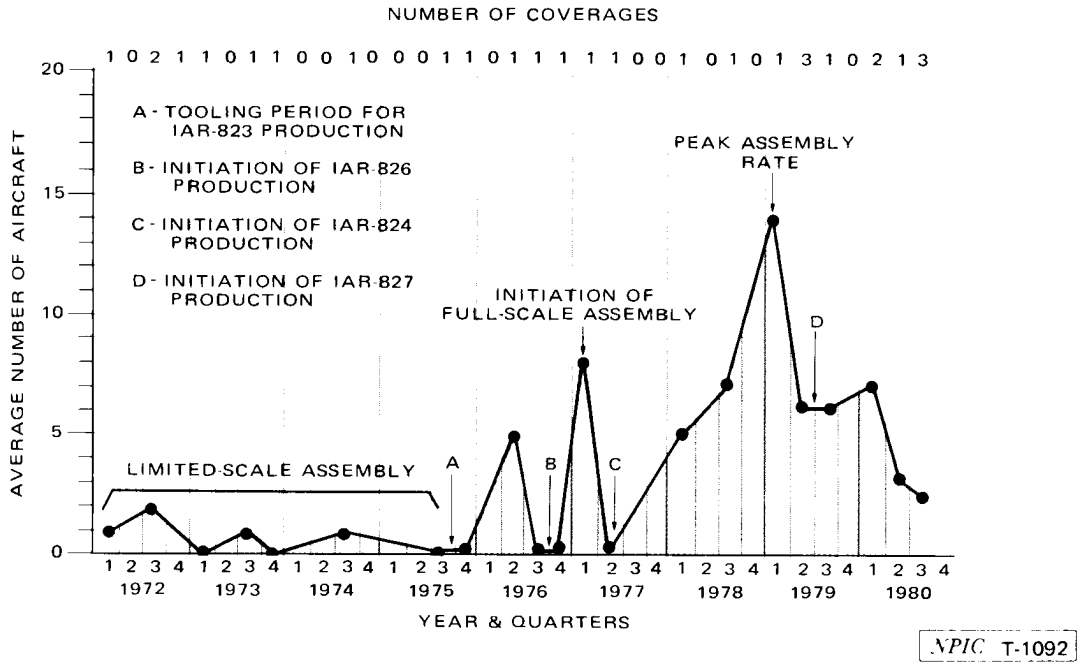
NUMBER OF COVERAGES
1 0 2 1 1 0 1 1 0 0 1 0 0 0 1 1 0 1 1 1 1 1 0 0 1 0 1 0 1 3 1 0 2 1 3
AVERAGE NUMBER OF AIRCRAFT
20
15
10
5
0
A - TOOLING PERIOD FOR IAR-823 PRODUCTION
B - INITIATION OF IAR-826 PRODUCTION
C - INITIATION OF IAR-824 PRODUCTION
D - INITIATION OF IAR-827 PRODUCTION
PEAK ASSEMBLY RATE
INITIATION OF FULL-SCALE ASSEMBLY
LIMITED-SCALE ASSEMBLY
A
B
C
D
1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4
1972 1973 1974 1975 1976 1977 1978 1979 1980
YEAR & QUARTERS
NPIC T-1092

FIGURE 5. AVERAGE NUMBER OF IAR-316 ALOUETTE III PER COVERAGE AT GHIMBAV AIRCRAFT PLANT ICA

was underway and IAR-316 assembly halted temporarily. Initiation of full-scale assembly began in late-1975 and continued until mid-1980 with short slowdowns for initial production of two other aircraft. As of mid-1980, it is likely that a minimum of 135 IAR-316 had been produced.[7] The IAR-316 Alouette III, currently being assembled at a rate of approximately two per month, is a light, multirole helicopter powered by a 870 shaft-horsepower Turbomeca Artouste engine. The aircraft can be equipped for numerous utility roles including agriculture, cargo, communications, forestry, fire-fighting, and rescue. Significantly, however, the Romanians began arming the IAR-316 in mid-1972 with machine guns and rocket pods.[8] While the machinegun modification was not identifiable on overhead imagery, two IAR-316 with rocket pods were observed at the plant on [redacted] (Figure 6), and camouflage-painted IAR-316 have been observed at the plant in a high proportion to civil models since [redacted] (Table 2). It is likely that most, or possibly all, of the camouflage-painted IAR-316 at Ghimbav are at least machinegun equipped.[8] 25X1 25X1

24 (S/D) **IAR-823.** The IAR-823 is a low-wing single-engine multirole monoplane powered by a 290-horsepower, Lycoming IO-540-G1D5, six-cylinder horizontally opposed, air-cooled engine. Prototype construction began in 1971,[9] and the first prototype was observed at Ghimbav on [redacted] (Table 2). Full-scale production began in late 1975 (Figure 7) and continued at a moderate rate through mid-1980 with slowdowns the initial production of three versions (Figure 4). In the civil configuration, the IAR-823 is a five-seater with variable equipment options for such roles as air taxi, executive or freight transport, ambulance, liaison, or photo reconnaissance.[9] The military version (Figure 4) exhibits slight airframe modifications in the form of a reduced wingtip chord, slightly rounded wingtips, and narrower rear fuselage. In the military configuration, the IAR-823 is equipped with a fuselage-mounted machinegun and four wing-mounted rocket pods, two on each wing.[8] Additionally, all military IAR-823 which have been observed at the plant to date have been camouflage painted (Figure 4 and Table 2). While no production rate for the IAR-823 has yet been confirmed, photographic observations suggest a rate of three to five per month. 25X1 25X1

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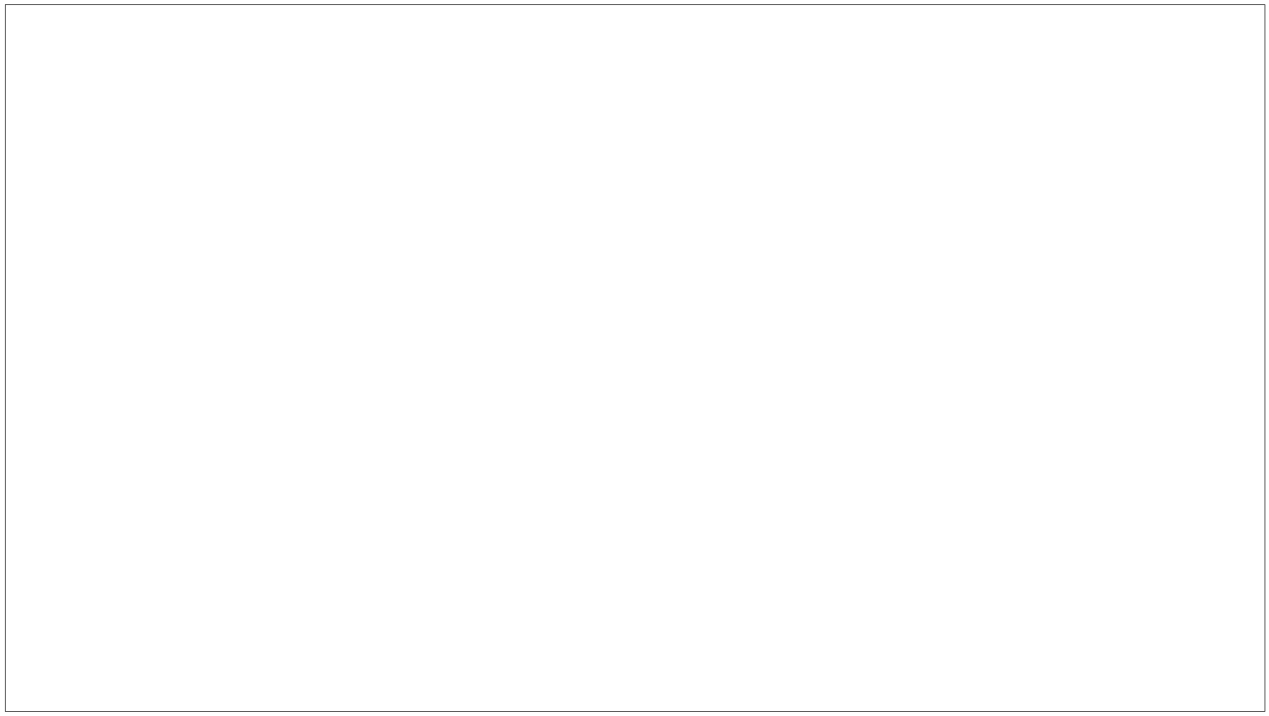

FIGURE 6. SA-316 ALOUETTE III WITH ROCKET PODS AT GHIMBAV AIRCRAFT PLANT ICA

25. (S/D) **IAR-330 PUMA.** With the signing of another agreement with Aerospatiale in 1975, this time to assemble the SA-330 PUMA helicopter, Romania took yet another step forward in its attempt to free its aviation industry from Soviet influence. Limited-scale assembly of the PUMA, designated IAR-330 in Romania, began in early 1976, and the first two aircraft were observed at Ghimbav on [redacted] (Table 2). Full-scale production began in early 1977 and a gradual upward trend in production rates (Figure 8) has since been observed, culminating in an estimated June 1980 rate of one and one half to two aircraft per month. The IAR-330 PUMA is a twin-engine medium-weight, multirole, transport helicopter powered by two 1,175-shaft-horse-power, Turbomeca Turmo IVC turboshaft engines. Like the IAR-316 and IAR-823, the IAR-330 PUMA is produced in two versions (Figure 4). In the civil configuration, the IAR-330 is a highly versatile, all-weather transport with numerous equipment options. As a military aircraft, the IAR-330 serves as a tactical, all-weather troop transport[10] and gunship. Also like the IAR-316 and IAR-823, the IAR-330 can be equipped with machineguns.[8] While the rocket pod option has not been observed on imagery, it remains likely that the IAR-330 is so equipped.[8]

25X1

26. (S/D) **IAR-824.** The IAR-824 (Figure 4) is a single-engine high-wing monoplane powered by a 290-horsepower, Lycoming I0-540-C1D5 flat-six engine, and serves as a six-seat utility/liaison aircraft.[10] Prototype construction of the IAR-820, designed by Iosif Silimon, began at Ghimbav in late 1969, and the aircraft received certification in May 1972.[10] Necessary design changes delayed initial production until early 1977, however. Limited-scale production began in early 1977 (Table 2) and has continued through mid-1980. The estimated production rate, based solely on imagery, is four to six aircraft annually.

[redacted]

25X1

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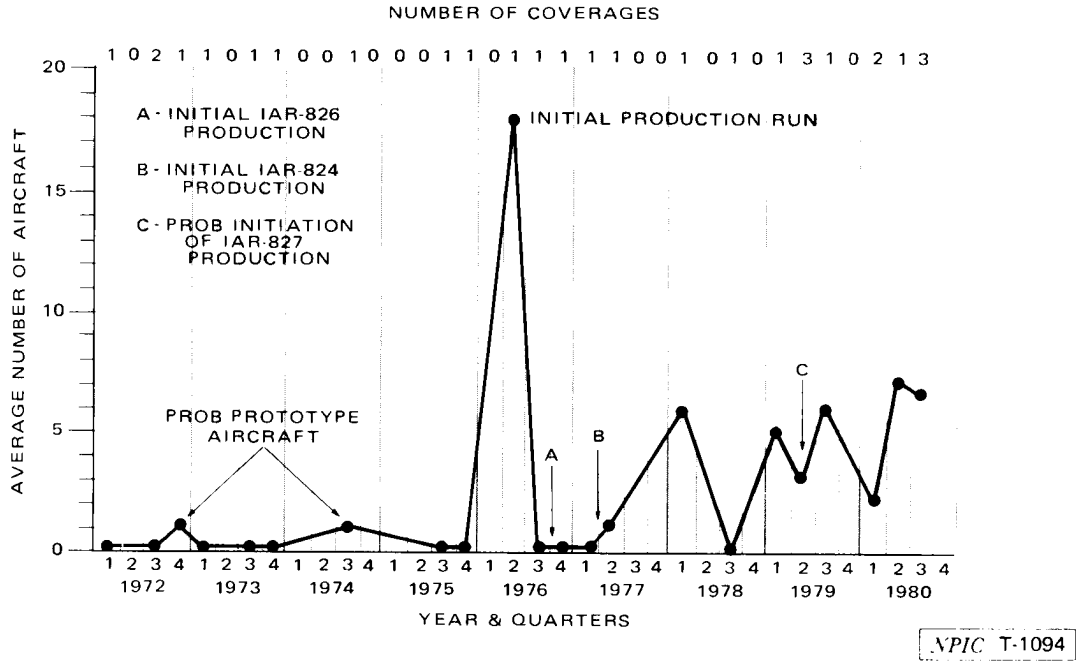
NUMBER OF COVERAGES
1 0 2 1 1 0 1 1 0 0 1 0 0 0 1 1 0 1 1 1 1 1 0 0 1 0 1 0 1 3 1 0 2 1 3
AVERAGE NUMBER OF AIRCRAFT
20
15
10
5
0
A - INITIAL IAR-826 PRODUCTION
B - INITIAL IAR-824 PRODUCTION
C - PROB INITIATION OF IAR-827 PRODUCTION
INITIAL PRODUCTION RUN
PROB PROTOTYPE AIRCRAFT
A
B
C
1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4
1972 1973 1974 1975 1976 1977 1978 1979 1980
YEAR & QUARTERS
NPIC T-1094

FIGURE 7. AVERAGE NUMBER OF IAR-823 SIGHTINGS PER COVERAGE AT GHIMBAV AIRCRAFT PLANT ICA

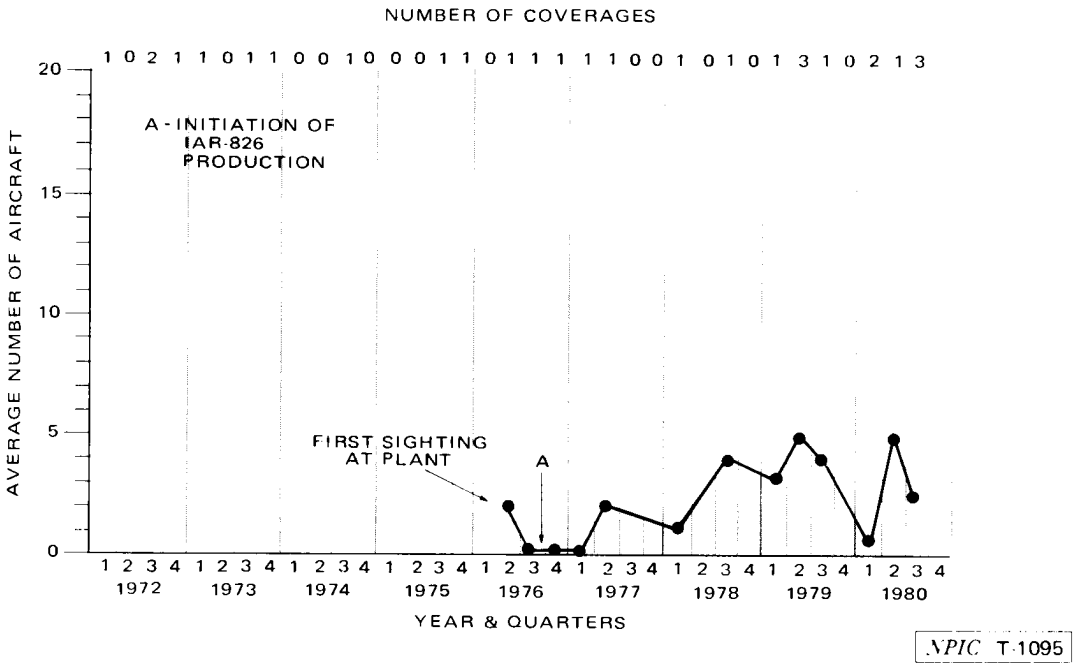

FIGURE 8. AVERAGE NUMBER OF IAR-8330 PUMA SIGHTINGS PER COVERAGE AT GHIMBAV AIRCRAFT PLANT ICA

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27. (S/D) **IAR-826.** A limited production run of the IAR-826, an all metal version of the earlier IAR-822, began in early 1976 and ended by early 1978. The total production run was approximately 25 to 35 aircraft. Characteristics previously discussed for the IAR-822 can be applied to the IAR-826.[10]

28. (S/D) **IAR-827.** Design of the IAR-827, a developed version of the all metal IAR-826, began in 1973 and flight testing began in 1976. The IAR-827 (Figure 4) is a single/two-seat, low-wing agricultural monoplane with greatly increased payload capabilities over the IAR-822 and IAR-826. It is powered by a single 600-horsepower, Polish PZL-3s, seven-cylinder, radial, air-cooled engine. This engine also powers the Polish PZL-106 KRUK.[10] Series production of the IAR-827 began in early 1979 and continued at a slow rate through mid-1980 (Table 2).

29. (S/D) **Gliders.** Ghimbav has been engaged in the production of gliders since 1972, and two distinct models have been observed at the plant (Figure 4). Production of the IS-28B2 began in early 1972 and continued through mid-1980. The IS-28B2 is a single-seat, high-wing towed glider. Production of the IS-28M1 began in late 1975, and this glider has since become the more frequently observed of the two models. The IS-28M1 is a two-seat, low-wing, powered glider.[6] An IS-29 series glider has been reported[6,9] but has not been confirmed at the plant.

Aircraft Repair Activity

30. (S/D) Repair of aircraft produced at Ghimbav, as well as older Romanian-produced aircraft and some foreign-produced aircraft, takes place at Ghimbav on a continuing basis. Most of this activity occurs in the repair hangar at the airfield. Aircraft known to be repaired at Ghimbav include the Romania IAR-817, IAR-822, IAR-818, IAR-316 Alouette III, the Soviet AN-2 COLT, the Czech Z-326 Trener Master, and the Polish PZL-104 Wilga.[11] Continued observations of these aircraft (Table 2) confirm a long-term commitment to a repair program.

Other Production Activity

31. (S/D) Numerous other items are produced at Ghimbav, most notably wings, stabilizers, flaps, and other miscellaneous parts for the BN-2A ISLANDER, produced in Bucuresti.[12] Ghimbav also reportedly produces unspecified parts for the CIAR/IAR-93 JUROM.[8]

Training Activity

32. (S/D) The continued movement of aircraft around the airfield, observations of in-flight aircraft over or in the environs of the airfield, and occasional observations of parachutes and drop-zone markers indicate that some training activity may occur at the plant. Whether this activity is being carried out by the military, a sports club, or plant personnel is not known.

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IMAGERY

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MAPS OR CHARTS

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*Extracted information is classified [redacted] 25X1
**Extracted material is classified [redacted] 25X1
***Extracted material is classified [redacted]

REQUIREMENT

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(S) Comments and queries regarding this report are welcome. They may be directed to [redacted] 25X1
Warsaw Pact Forces Division, Imagery Exploitation Group, NPIC, [redacted] 25X1

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